

What Is Claimed Is:

1. An expandable keyboard comprising:
 - a keyboard housing which is extendible from a contracted position to an expanded position;
 - at least one elastic belt, the elastic belt attached to the housing;
 - a plurality of keyswitch assemblies, each keyswitch assembly attached to the elastic belt so that when the keyboard housing is extended from a compressed position to an expanded position the key pitch is increased.
2. The keyboard of claim 1, further comprising:
 - a plurality of keytops corresponding to the plurality keyswitch assemblies; the keytops being attached to the elastic belt and cooperating with the keyswitch assemblies.
3. The keyboard as recited in claim 2, wherein at least one of the plurality of keytops is formed of a stretchable material so that the size of the keytop is larger in the expanded position of the keyboard housing than the size of the keytop in the contracted position.
4. The keyboard of claim 1, wherein the at least one elastic belt is formed of a material which can be stretched in only one direction.
5. The keyboard of claim 3, wherein the keytops are constructed from elastomeric foam.
6. The keyboard of claim 3, wherein the edges of the keytops are pleated.
7. The keyboard of claim 1 further comprising:
 - a plurality of keytops, each keytop attached to a keyswitch assembly;
 - a plurality of appliques fastened to the elastic belt, the appliques surrounding each keytop.

8. The keyboard of claim 2 further comprising:
a plurality of cam plates, each cam plate fixedly mounted to a single keyswitch assembly;
a plurality of definer rods, each definer rod pivotally mounted to a sled mounted to the elastic belt; each definer rod located in a corner of a keytop;
wherein each definer rod cooperates with an associated cam plate so that when the keyboard housing is moved from a compressed position to an expanded position, the definer rods press against the corners and force the corners of the keytops outward.

9. The keyboard of claim 1 wherein the at least one elastic belt has a conductive fibers which reduce radio frequency emissions.

10. The keyboard of claim 1 wherein an overlay is applied to the at least one elastic belt.

11. The keyboard of claim 10 wherein the overlay is elastomeric.

12. The keyboard of claim 1 further comprising a flexible circuit tape connecting the keyswitch assemblies.

13. The keyboard of claim 1 further comprising: a plurality of keytops corresponding to the plurality of the keyswitch assembly, each keytop connected to a keyswitch assembly.

14. The keyboard of claim 13, further comprising:
a plurality of key segments, corresponding to the plurality of keytops, the key segments surrounding each keytop.

15. The keyboard of claim 14 wherein each key segment has a flexible edge.

16. The keyboard of claim 1 wherein
each keyswitch assembly is attached to at least one
elastic belt at the top of keyswitch assembly; and further
comprising

5 at least one second elastic belt attached to the housing,
the second elastic belt corresponding to the at least one
elastic belt and further wherein each keyswitch assembly is
attached to at least one second elastic belt at the bottom of
the keyswitch assembly.

10 17. The keyboard of claim 1 wherein an elastic belt is
provided for each row of keys.

18. The keyboard of claim 1 wherein only one elastic belt is
provided.

15 19 The keyboard according to claim 2 further comprising:
means for supporting the center section of each keytop.

20. The keyboard according to claim 1 wherein each keyswitch
assembly has a runner located on the bottom of the assembly.

21. An expandable and contractible keyboard comprising:
a housing which is extendible from a contracted position
20 to an expanded position;
a plurality of elastic belts attached to the housing;
a plurality of keyswitch assemblies attached to the
elastic belt, forming rows of keys.

22. A keyboard as claimed in 21, wherein the housing is
25 extendible in both the vertical direction and horizontal
direction.

23. An expandable and contractible keyboard comprising:
a housing which is extendible from a contracted position
to an expanded position;

a supporting framework which is extendible from a contracted position to an expanded position attached to the housing;

5 a plurality of elastic belts attached to the supporting framework;

a plurality of keyswitches mounted on the elastic belts;
a connecting wire connected to the keyswitches to provide an electrical response when a keyswitch is pressed.

10 24. A keyboard according to claim 23 further comprising:
a plurality of extendible parallel supporting bars, each supporting bar being located under an associated elastic belt to support the keyswitches.

15 25. A keyboard according to claim 23 further comprising:
an expandable back panel attached to the housing, the back panel providing support to the keyswitches.

26. A keyboard according to claim 23, wherein the elastic belts are slidably attached to the framework by couplers.

27. A keyboard according to claim 26, further comprising a plurality of coil springs located between adjacent couplers.

20 28. A keyboard according to claim 23, wherein the elastic belts form wire tunnels for carrying the connecting wire.

29. A keyboard according to claim 23, wherein the supporting framework includes:

25 an extendible top frame bar with a proximal end, a distal end, and a center portion;

an extendible bottom frame bar with a proximal end, a distal end, and a center portion;

a proximal frame bar connecting the proximal end of the top frame bar and the proximal end of the bottom frame bar;

30 a distal frame bar connecting the distal end of the top frame bar and the distal end of the bottom frame bar;

a middle frame bar connecting the center portion of the top frame bar and the center portion of the bottom frame bar.

30. A keyboard according to claim 29, wherein the proximal frame bar, distal frame bar, and middle frame bar are extendible.

31. A keyboard according to claim 30 further comprising:

a plurality of end row couplers slidably mounted on the proximal and distal frame bars, the elastic belts attached to the end row couplers;

a plurality of middle row couplers slidably mounted on the middle frame bars, the elastic belts attached to the end row couplers.

32. A keyboard according to claim 31 further comprising:

a plurality of coil springs, at least one of the plurality of coil springs located between each adjacent end row couplers, and at least one of the plurality of coil springs located between each adjacent middle row couplers.

33. A keyboard according to claim 32 further comprising:

a plurality of extendible parallel supporting bars, each supporting bar attached at one end to an end row coupler and at another end to a middle row coupler, each bar being located under an associated elastic belt so that the supporting bar supports the keyswitches.

34. A keyboard according to claim 33 further comprising:

a plurality of limit cords attached to the parallel supporting bars so that the cords limit the vertical expansion of the framework.

35. A keyboard according to claim 34, further comprising:

a plurality of keytops, each keytop being associated with a keyswitch so that when the keytop is pressed, the keyswitch is activated.

36. A keyboard according to claim 35, wherein the keytops are expandable.

37. A keyboard according to claim 25, wherein the back panel includes:

5 a left front plate pair including a first front plate with a top edge slidably attached to a second front plate with a bottom edge;

10 a right front plate pair including a third front plate with a top edge slidably attached to a fourth front plate with a bottom edge;

15 a back plate pair including a first back plate with a top edge slidably attached to a second back plate with a bottom edge;

20 an upper guideway with a channel formed therein, the upper guideway attached to the top edge of the first back plate;

25 a lower guideway with a channel formed therein; the lower guideway attached to the bottom edge of the second back plate;

30 wherein the top edge of the first front plate and the top edge of the third front plate are slidably retained in the channel in the upper guideway, and

35 wherein the bottom edge of the second front plate and the bottom edge of the fourth front plate are slidably retained in the channel in the lower guideway.

38. A keyboard according to claim 23 further comprising:

40 a plurality of limit cords attached to the supporting framework so that the cords limit the horizontal expansion of the framework.